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Wheat

Outlook and Situation Report

1984 crop to be larger, page 2



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Summary

Winter wheat output for 1984 may be nearly 2 billion bushels for the second consecutive year. Conditions on May 1 put the estimated harvest at 1.98 billion bushels, only 1 percent lower than in 1983. Even though a generally cool, wet spring set back development of the crop and lowered yield prospects, less acreage will be idled in 1984 than a year ago, which will increase prospective harvested acreage. This season, winter wheat farmers seeded nearly 65 million acres, 2.4 million more than last year. An estimated 52 million acres will be harvested and will yield about 38 bushels an acre. For spring wheat, program participation will be around 75 percent of base acreage, compared with over 85 percent in 1983. This indicates larger 1984 Durum and other spring wheat output.

Although total 1984 program enrollment was smaller than in 1983, it increased after program modifications, and rose to 61 percent from the earlier 53 percent of the total wheatland base. Total 1984 wheat production is forecast at 2.55 billion bushels, up 5 percent from 1983, but 262 million under 1982's alltime high.

The heightened output, when added to near-record carryin stocks, means further building of U.S. stocks, given expected declines in domestic use and exports. On the domestic side, heavy wheat use for livestock feed may continue into the summer, but slacken thereafter if the 1984 corn harvest reaches or exceeds the forecast 7.8 billion bushels. U.S. wheat exports for 1984/85 will likely encounter the same factors that reduced shipments for the last 2 years: larger supplies in foreign exporting nations, aggressive marketing by these nations, another record world wheat harvest, continued financial constraints in many markets, the impact of a strong dollar, and prices being supported by the loan rate for at least part of the season. On balance, total 1984/85 U.S. wheat disappearance may not exceed the expected crop, causing yearend stocks (May 31, 1985) to rise slightly.

These 1984/85 supply-demand prospects suggest that wheat prices may be hard pressed to remain much higher than the \$3.30-a-bushel loan rate. The season-average price is forecast to be between \$3.20 and \$3.50 a bushel, compared with \$3.50 in 1983/84.

Assuming normal weather from now on, 1984 world wheat crop prospects are generally promising. Total output could set another record for the fourth consecutive year, and approach 500 million metric tons. However, financial conditions and large supplies in buyer nations are again expected to keep 1984/85 world trade volume near 1983/84's 101 million tons.

Near-record U.S. wheat supplies dominated the 1983/84 marketing year. Concurrently, export volume declined for the second consecutive year, but significantly increased domestic feed use lifted 1983/84's disappearance to the second largest ever. In turn, the season's carryover stocks declined for the first time in 4 years.

OUTLOOK FOR 1984/85

Final 1984 Wheat Program Features Established

Once again, USDA's 1984 wheat program includes an acreage-reduction program (ARP) program, a cash land diversion (CLD), and a payment-in-kind (PIK) program. Final provisions, however, were not established until the Congress enacted the Agricultural Programs Adjustment Act of 1984 in early April. This legislation made the following changes in the earlier program provisions announced in August 1983.

- The target price was lowered from \$4.45 to \$4.38 a bushel.
- The required acreage reduction remained at a minimum of 30 percent of base acreage. However, the reduction will consist of 20-percent ARP, combined with a 10-percent CLD. The payment rate will be \$2.70 a bushel times the farm's established program yield. Half of this cash payment is available in advance at signup time.
- The PIK payment was increased from 75 percent to 85 percent of the farm's established program yield times the acres diverted.
- Wheat haying and grazing on 1984 conservation acreage may be authorized by State Agricultural Stabilization and Conservation Service committee, and if so, the rules must not be more restrictive than those in effect for 1983.

Earlier program provisions that were unchanged by the legislated revisions are (1) the 1984 crop national average loan rate is \$3.30 a bushel; (2) no advance deficiency payment will be made; (3) rules concerning summer fallow acreage are similar to those in 1983; that is, those acres left idle to meet the acreage-reduction requirement can be designated on area that will be in a fallow rotation.

After enactment of the legislation, signup was reopened, and growers with a wheat acreage base, who had not signed up earlier to participate in the program, were able to do so between April 16 and May 4, 1984. Growers who previously enrolled could drop out completely or change, their level of participation during the same period. As defined under the original August announcement, contracts will be binding. Producers who break their contract will be subject to liquidated damages equal to 20 percent of the new target price (about 88 cents a bushel) times the acres idled, times the established program yield.

Latest Results of Program Compliance

Wheat growers were responsive to the earlier announced program. A total of 50 million acres out of a 93.9-million-acre U.S. wheat base enrolled in the original program. This put total participation at 53 percent: 48 percent for winter wheat growers and 71 percent for Durum and other spring wheat producers. The 1984 wheat base increased 3 percent from 1983's 90.9 million.

Recently released signup data, reflecting the April 16-May 4 signup, which gave farmers the opportunity to

1984 Wheat Program Enrollment

Wheat Class	Base	Enrollment	
		Initial	Final
Million acres			
Winter	72.2	34.6	40.8
Spring	21.7	15.4	16.2
Total	93.9	50.0	57.0

change their original program participation, show a net gain of 7 million base acres under the program, increasing participation to about 61 percent.

At the end of the initial signup period (March 16), 39.2 million base acres enrolled in the 30-percent ARP feature only, and 10.8 million in the ARP plus the 10- to 20-percent PIK option. Close to 17 million acres of wheat base acreage (including 2 million for PIK) would have been set aside from 1984 production.

The results of the final signup show that enrollment in the 20-percent ARP and the 10-percent CLD program, increased to 37 million acres. About 7.4 million acres were designated in the ARP and 3.7 million in the CLD program. Acreage enrolled in the PIK went up to about 20.0 million acres, nearly double the initial signup. Growers who enrolled in this year's PIK option will idle a total of 9.6 million acres, of which 3.6 million were a result of the PIK portion.

Overall, the final signup increased the acreage conservation reserve (ACR) 22 percent, from 17.0 million acres to 20.7 million. Over 28 million acres were idled by program compliance in 1983. The 1984 program does not include last year's whole base PIK option. Conversely, because the PIK option was reduced to a maximum of 20 percent because eligibility was limited to growers with FOR stocks and are willing to harvest for PIK. Raising the payment rate from 75 to 85 percent of the established base yield seems to have increased final signup, but PIK acreage is likely to total only 3.6 million acres, compared with 1983's 17 million.

Winter Wheat Crop Under 2-Billion Bushels Again

Based on conditions as of May 1, the 1984 U.S. winter wheat crop is forecast to be under 2 billion bushels, for the second season. An estimated harvest of 1.98 billion bushels would be 1 percent smaller than 1983. Chances are 2 out of 3 that this early estimate will not differ by more than 130 million bushels from the final production. Winter wheat seedings totaled nearly 65 million acres, up 4 percent from last year and only 1.6 million below the record plantings of 1982. The spread of winter wheat planting into the spring wheat areas this year in the Northern Plains added nearly 1.4 million acres to that wheat class. Although prospects varied from region to region as the crop came out of winter dormancy, this year's U.S. average yield is estimated to be down from 1983's record 41.8 bushels an acre, and is forecast at 38 bushels. However, reflecting lower program participation—especially in PIK—harvested acres will be around 52 million, 9 percent larger than in 1983.

Wheat: Supply and disappearance

Item	1984/85 Projected
	<i>Million bushels</i>
June 1 stocks	1,392
Production	2,550 + 190
Total supply ¹	3,945 + 190
Exports	1,350 + 150
Food	630 + 5
Seed	95 + 5
Feed	400 + 75
Total disappearance	2,475 + 175
Ending stocks	1,470 + 175

¹Includes imports.

Larger Plantings To Increase Spring Wheat Acreage

As of February 1, spring wheat producers planned to plant 3.4 million more acres than in 1983. Durum growers intended to up acreage 50 percent from last season's sharply reduced seedings. However, these decisions were made very early in the season, even before the first program signup ended in March. Moreover, the modified program will likely affect 1984 spring wheat seedings, currently nearing completion. Although the recent data on program participation verify that fewer spring wheat base acres will be left idled this year, the first actual survey of planted area will be reported in USDA's *Crop Production Acreage Report* released late in June. Except for parts of Montana, adequate soil moisture prevails over most spring wheat regions, pointing to potential yields above last year's 31.3 bushels an acre. On balance, a larger 1984 spring wheat harvest seems likely, possibly more than 100 million bushels above 1983's 432 million.

Large Supplies and Steady Demand for 1984/85

Combined 1984 winter and spring wheat production is forecast at 2.55 billion bushels, 262 million under 1982's record. Although stocks going into 1984/85 marketing year are estimated to be only 149 million bushels below the 1.54 billion last June 1, this provides little relief to wheat growers who face prospects of excess wheat supplies in 1984/85. The expected increase in 1984's production will offset the drop in beginning stocks and will maintain total supply at a near-record 3.9 billion bushels. Such a supply portends prices near loan rates, unless there are unexpected increases in demand.

On the domestic side, wheat food use has little prospect to expand much more than population growth trends. The continuing emphasis by interested groups, such as the Wheat Industry Council, of enlightening the public on the nutritional value of bread and bakery products may help per capita flour consumption climb from the 116 pounds in 1983. From 1976-82, per capita use averaged 116 pounds, with a low of 114 pounds in 1982. For 1984/85, wheat food disappearance is projected up, at 630 million bushels, in line with population growth.

Whereas 1983/84's domestic disappearance was highlighted by record wheat feeding, prospects in 1984/85 are for slightly less wheat use. Since last sum-

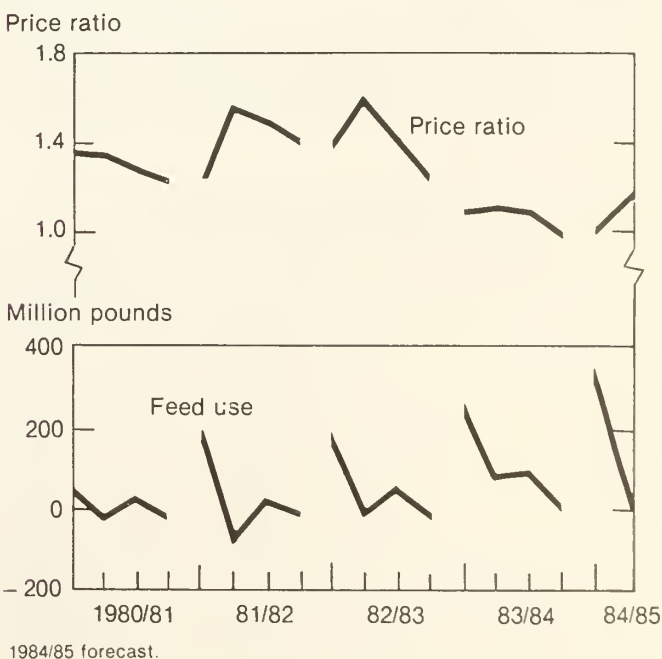
mer, prices have been low relative to corn. This will likely continue through the June-September 1984 wheat harvest, but if the 1984 corn harvest nears 8 billion bushels, wheat feeding could abruptly subside. Even though wheat feeding may reach another record during June-September, total 1984/85 use will likely be down 25 million bushels to 400 million bushels.

On the export side, U.S. overseas wheat business will depend upon how much the prospective 1984 world wheat production adds to the already large carryover of global wheat stocks. World wheat trade will likely continue strong, but the United States will again face some of the same factors that reduced wheat shipments for the last two seasons. These are larger supplies in foreign exporting nations, aggressive marketing by these nations, possibly increased production in major world wheat consuming countries, the impact of a continued strong dollar, and prices supported by the loan rate for at least part of the season.

A continuation of 1983/84's expanded world consumption of wheat as a feed grain, particularly by world buyers, may be favorable to the United States, because of the very large supplies at favorable prices. The wheat/corn price ratio, although likely to rise in 1984/85, will still be low by historical standards following the wheat harvest. Also positive efforts are being made to expand U.S. exports through increased funding of various credit and concessional programs. However, when all these factors are weighed, it seems likely that the 1984/85 U.S. export season may have to be satisfied with a small export drop. At this early date, the U.S. export forecast is 1.35 billion bushels, with a range from 1.2 to 1.5 billion, compared with 1.43 billion in 1983/84.

On balance, total 1984/85 wheat use may not exceed the expected crop, causing yearend stocks to again push upward after the small downturn in 1983/84. Stocks

Wheat/Corn Farm Price Ratio and Wheat Feed Use



owned by USDA's Commodity Credit Corporation (CCC) and held in the farmer-owned reserve (FOR) will make up a major portion of this carryover.

These 1984/85 supply-demand prospects suggest that the average farm price may not be much higher than the \$3.30-a-bushel national average loan rate. A large portion of the total 460 million bushels of outstanding CCC loans on the 1983 crop will not be redeemed because current farm prices are below loan level. A loan holder would need to receive a market price high enough to pay the principal plus accrued interest and storage costs before breaking even. Thus, increasing quantities of CCC-owned stocks from forfeited 1983 crop loans may help moderate early season price declines. But monthly farm prices of 12 to 21 cents below the loan rate, as occurred during the last two seasons, could recur during this summer's harvest. For 1984/85, the average farm price may range between \$3.20 and \$3.50 a bushel, compared with \$3.50 averaged in 1983/84.

THE 1983/84 SITUATION

Wheat Stocks Down Slightly

April 1 stocks of 1.75 billion bushels were down 7 percent, but still second in size to last year's record-high 1.89 billion. The decline not only reflects lower production for 1983 but also a sizeable increase in disappearance for June-September over last year. Examining the location of these stocks shows that current inventories stored on the farm are off 13 percent from last April. This drop was due to the sharp pulldown of wheat in the grain reserve. The 1983 PIK program required huge amounts of reserve wheat to be used as payment to participating farmers. FOR stocks have been halved, from over 1.1 billion bushels to 580 million as of April 1. Producers who received PIK entitlements from FOR stocks located in warehouses likely marketed these supplies in large amounts after the Government-paid storage fees were discontinued, but they also marketed heavily from farm-stored locations.

Another aspect of the April wheat stock situation is the difference in the disposition of CCC loans. On April 1, 1983-crop regular loans totaled 460 million bushels, com-

pared with only 62 million in 1982-crop loans. Yet, total loan activity for the two crops was about even. The major difference reflects the \$4-a-bushel loan rate for 1982 wheat placed directly into the FOR. For 1983 crop loans, no premium was offered and entry into the FOR was delayed until maturity of the 9-month regular loan period lapsed.

Because average market prices have been below the loan rate during most of this marketing year, only a small amount of 1983 loans will be redeemed. Therefore nearly all of the 460 million bushels under loan as of April 1 will either be placed into the FOR or be forfeited to CCC. Forfeitures to CCC are expected to reach 100 to 150 million bushels, the largest quantity acquired since 1977 when 50 million was taken over. Entries of 1983 crop loans into the FOR may approach 300 million bushels.

Domestic Disappearance Up

Record domestic disappearance during June-March was all attributed to the heavy use of wheat as a feed grain. Feed and residual use topped more than 400 million bushels in 1983/84, a post-World War II high. Estimated feed and residual use was largest in Hard Red Winter wheat areas, at 55 percent of the total; Soft Red Winter use was near 33 percent; and the remainder was divided among Hard Red Spring, White, and Durum wheat.

So far this season, U.S. flour mills have been grinding 7 percent more than a year ago. However, this was heavily weighted by grinding last summer. Last August had the highest 1-month mill grind ever, as millers produced for the large exports to Egypt—a special sales program. For calendar year 1983, flour production exceeded 300 million cwt for the first time. Subtracting the total year's flour exports discloses total domestic use at an alltime high. But per capita wheat flour bread and bakery product consumption changes very little, even when wheat is priced low. For the last 5 years, U.S. flour use has been about 114 to 117 pounds per person.

Competition Lowers U.S. Exports

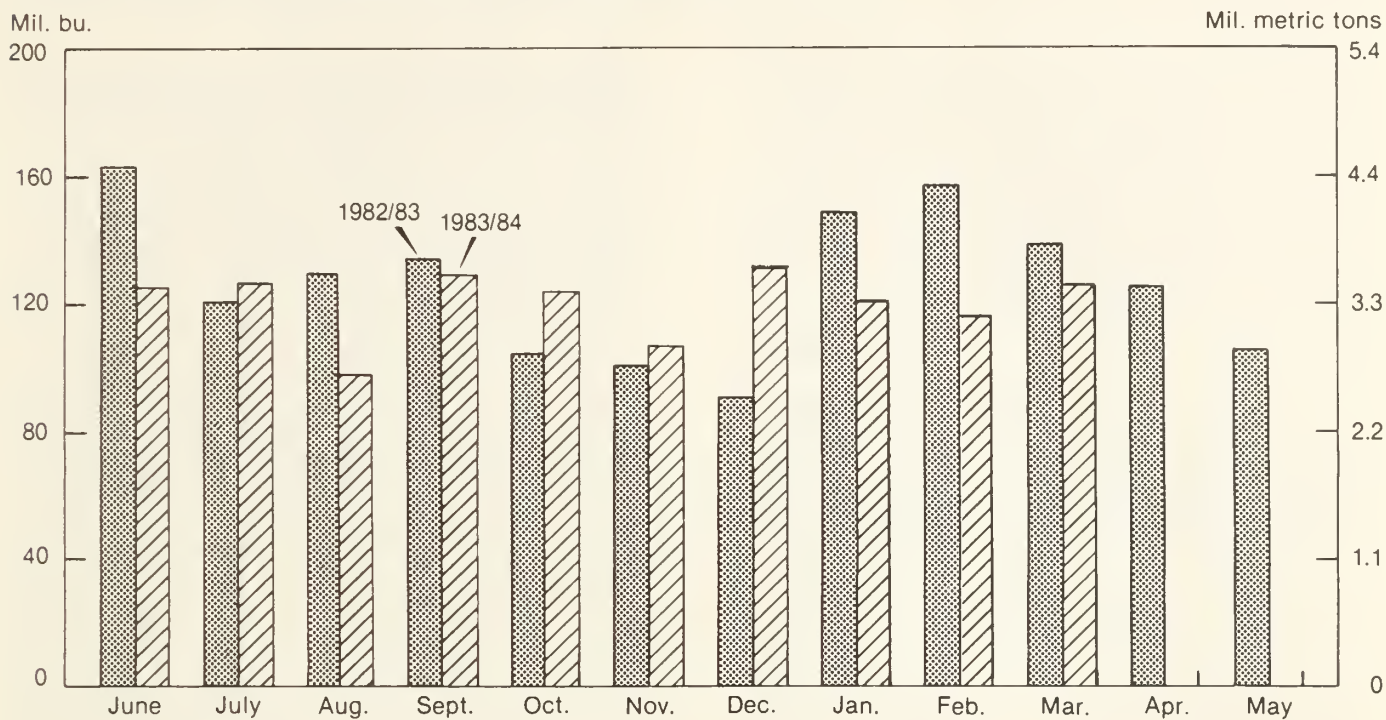
The completion (in January 1984) of a record wheat harvest in the Southern Hemisphere signaled increased marketing for world wheat traders. That is especially true for Argentina and Australia, where export movements have been records, and handling capacity is being used at its maximum. This development describes the tone for the 1983/84 world wheat trading season, which has been one of the most keenly contested among exporters. Even with the Australian crop suffering extensive weather damage at harvest, reducing a large portion of it to feed-wheat quality, marketing efforts of this grade of wheat was aggressive. Put together with larger crops from other Northern Hemisphere producing countries, the keen competition during 1983/84 lowered expected U.S. wheat exports 5 percent from a year ago to 1.4 billion bushels, or 346 million below the record of 1981/82. India and China were two major U.S. buyers that reduced 1983/84 purchases from a year ago. Both had their own record 1983 wheat harvests. For 1983/84, the U.S. share of world trade will drop from last year's 41 percent (July-June) to 38 percent. In the record 1981/82 world trade year, the United States consumed 48 percent of the global business.

Wheat: Supply and disappearance

Item	June-March	
	1982/83	1983/84
<i>Million bushels</i>		
June 1 stocks	1,164	1,541
Production	2,812	2,425
Total supply ¹	3,976	3,966
Exports	1,280	1,202
Food	519	527
Seed	79	81
Feed	228	403
Total disappearance	2,106	2,213
April 1 stocks	1,870	1,753

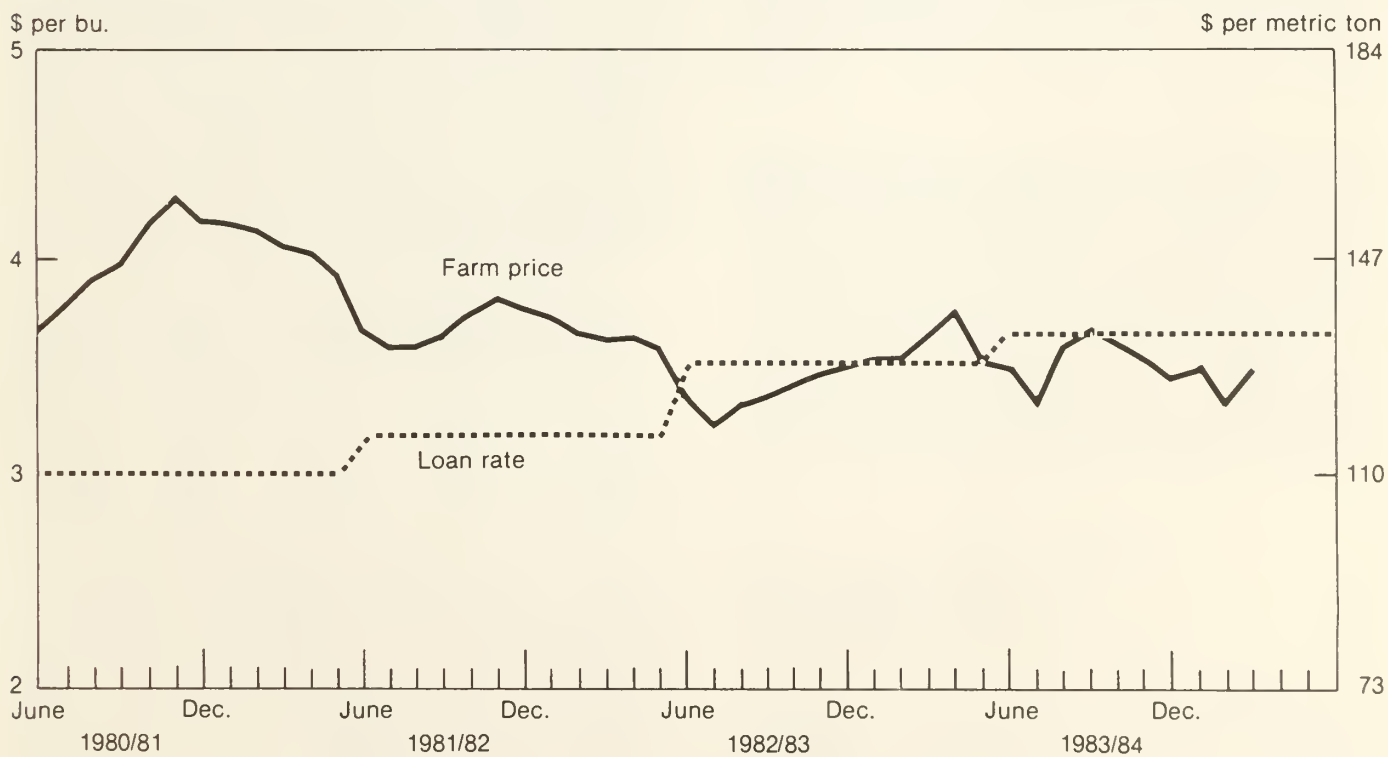
¹Includes imports.

U.S. Wheat Exports by Months, Marketing Years 1982/83 and 1983/84



Includes flour and products in wheat equivalent.

Wheat Prices Received by Farmers



Market Prices Likely to Weaken as 1984/85 Begins

Even though total U.S. wheat demand during 1983/84 was up about 5 percent from a year ago, the large supplies have been the overriding bearish influence on wheat prices through the season. The prospect of the first stock drawdown in 4 years, the upward pressure from the tightened 1983/84 feed grain markets, and strong use of the loan program were not enough to overcome a sluggish export season and the release of considerable stocks formerly isolated in the FOR. This year's average price will be about \$3.50 a bushel, below the \$3.65 price-supporting loan rate and last season's average of \$3.55. Farm prices were the lowest since the 1978/79 marketing year.

As a result of stagnant demand, large supplies, and a drop of 35 cents a bushel in the 1984/85 loan rate, new-crop prices will be lower. This is signaled by the July 1984 contracts in all three of the major wheat futures markets being down from last May's prices on the July 1983 contracts.

Market Forces Affect Bread Margins

Marketing spreads for white pan bread rose during 1983, especially during the last quarter. Record wheat stocks put downward pressure on wheat prices during 1983, while a huge decline in corn production sharply increased corn prices. This climb in corn prices sent the price of millfeed (a byproduct of wheat milling used for livestock feed) to its highest annual average in recent years. Millfeed price strength during October-December 1983 was the result of the unusually high corn prices at harvesttime—which increased millfeed demand—and the termination of milling for the special million-ton sale of flour to Egypt—which reduced millfeed supplies. The following table shows the effect of these developments on spreads for white pan bread late in 1983.

The procedure used to compute quarterly white pan bread marketing spreads uses concurrent monthly prices for ingredients and products. It does not account for time lags in the flow of commodities from farms to purchases of intermediate and final products. The abrupt changes depicted by quarterly spreads get smoothed out by hedging practices and other pricing strategies practiced by millers and bakers. During October-December 1983, wheat prices were down from a year earlier, yet millfeed prices went up. Consequently, the quarterly flour milling spread was 1.25 cents, significantly above the more typical miller's margin of 1.04 cents, which was the annual average for 1982 and 1983.

Marketing Spreads

	Flour milling	Farm-retail
	Value per 1-pound loaf (cents)	
October-December, 1982	1.03	48.74
October-December, 1983	1.25	49.39
Calendar year 1983	1.04	49.09
Calendar year 1982	1.04	48.18
Calendar year 1981	1.10	46.98

WORLD WHEAT OUTLOOK

Production Prospects for 1984/85

Assuming normal weather from now on, prospects for the 1984 world wheat crop are generally promising. This means that total global production, which attained all-time highs of just under 500 million metric tons for the last 2 years, has a good chance of setting even another record. Major exporting nations have geared their wheat acreage to high levels, so only bad weather could lower crop yields. Prospects for 1984/85 point to a continued world wheat surplus, with global production expected to about match global use.

In the Northern Hemisphere, winter wheat crops generally came out of dormancy in average to above-average condition, because adequate soil moisture and snow cover kept winter kill about average. Increased winter wheat plantings in nearly all major producing areas will more than likely offset deterioration in some regions due to dryness. USSR's 1984 winter wheat area will rise slightly from last year because of their need to expand summer fallow and only small increases in arable land. However, total output is still expected to rise about 9 percent from 1983. More timely rainfall will be needed to ensure average yields. In Western Europe, a freeze in EC agricultural prices for the 1984/85 marketing year will do little to prevent another bumper wheat crop. Total wheat area could be up about 3 percent in the EC and down slightly in other Western European countries.

Indicated wheat sowings in Eastern Europe are 1 percent above last year. However, fair-to-poor conditions may reduce yields so that 1984's production could barely match last year's. Production in Northern Africa is expected to be above average in Tunisia and Algeria because of increased plantings and favorable rains. However, poor crop development in Morocco will deter 1984's crop size. In India, 1984 production benefited from good weather, encouraging another record harvest. China's wheat harvest is not expected to reach last year's record, despite a 2-percent area increase. Spring rain is needed to boost low soil moisture throughout most of Northern China's wheat belt. April planting intentions in Canada were down 2 percent from a year ago; yet, assuming average growing conditions, the harvest is forecast at slightly below 1984's record 26.9 million tons. Estimated

World Wheat supply and distribution, 1980-83¹

Marketing year	Beginning stocks ²	Production	Total exports	Total utilization ³
Million metric tons				
1980/81	80.6	442.4	94.1	442.6
1981/82	85.5	450.4	101.3	445.5
1982/83 ⁴	96.9	480.8	98.2	469.4
1983/84 ⁵	102.0	487.4	100.0	482.3

¹Data in this table are based on an aggregate of differing local marketing years and will, therefore, differ from July-June data appearing elsewhere in this report. ²Stocks data are only for selected countries and exclude such important countries as the USSR, China, and part of Eastern Europe for which stocks data are not available; the aggregate stocks levels have, however, been adjusted for estimated year-to-year changes in USSR grain stocks. ³For countries for which stock data are not available, or for which no adjustments have been made for year-to-year changes, utilization estimates assume a constant stock level. ⁴Preliminary. ⁵Projected.

Source: World Grain Situation, Foreign Agricultural Service.

1984 Durum production may be up 13 percent, based on increased acreage.

Wheat production in the Southern Hemisphere is more uncertain at this time but may be down. An increase would require Australia to duplicate 1983's banner crop.

World Trade To Remain Stagnant

Conditions that limited trade expansion in 1983/84 are again expected to keep trade volume from rising. Competition among the exporters will be as keen as ever, with credit terms expected to weigh heavily on the buying decisions of developing nations. The strength of the U.S. dollar, which adds to importers' costs, will weigh on total trade volume. Global trade volume of lower valued feed-wheat classes and grades may expand as long as world coarse grain supplies remain tight. Food aid could expand to help reduce burdensome world wheat supplies. Indirectly, this could offset some commercial trade volume.

WHEAT BY CLASS

Hard Red Winter

Lower Program Compliance To Keep 1984 HRW Crop Large

Despite the early announcement of a 1984 ARP, Hard Red Winter (HRW) wheat producers went to the fields and planted about 45 million acres. This was up 4 percent from 1983 and only fractionally below the area that produced the record 1982 harvest.

Of course, the size of the HRW crop still depends on how much seeded area will be harvested. Weather conditions, until the combines are ready to roll, will have some influence on the final acres. But more important will be producers enrollment in the revised ARP. Some program changes, such as restoring the haying and grazing provision similar to that for the 1983 program and adding the 10-percent CLD, increased participation.

Initially, around 55 percent of HRW base was enrolled. Now, enrollment has increased to about 65 percent, compared with over 70 percent in 1983. But as of May 1, the 1984 harvest forecast of 1.15 billion bushels is only 40 million short of last year's crop, which was the second largest ever. Losses due to winterkill, along with some dryness in parts of the Great Plains wheat belt, are expected to keep HRW yields about average, significantly below last season's record of nearly 40 bushels an acre.

HRW exports for the 1983/84 season are slightly up from a year ago, principally from expanded sales to the Soviet

Union and China that have offset sharply reduced purchases by India. However, the most remarkable change in HRW disappearance has been its large use for live-stock feed. Cattle feeders in the Great Plains found the large supplies of favorably priced wheat attractive for their feed rations. An estimate of nearly 200 million bushels was fed to livestock since last June, and by season's end, the total volume of HRW fed could match the amount used for bread and bakery products. The following table shows that wheat's attractiveness relative to corn helped maintain cattle numbers in the Plains States, compared with those in the Corn Belt.

Hard Red Spring

HRS Stocks Down; 1984 Production Prospects Up

April 1 stocks of Hard Red Spring (HRS) totaled around 390 million bushels, the lowest April stocks in 2 years. While current supplies are down a fourth from a year ago, principally from sharply lower 1983 production, current farm prices have not differed appreciably from last season, even though demand has been very similar. Releasing the large quantities from the FOR for PIK obligations, due to heavy grower participation in the 1983 ARP, likely weakened the effect of the tightening supply. As the 1983/84 season began, about 340 out of 426 million bushels were nonmarketable stocks in the FOR and CCC-owned inventory. That amount is projected to drop to below 230 out of 324 million by June 1, 1984.

Disappearance of HRS during June-March was about on par with last year. Although 1983/84 exports are expected to top 200 million bushels for the third consecutive season, the total may be down slightly from a year ago (table 2). A record 1983 Canadian wheat crop dictated an aggressive export sales effort that cut into some U.S. markets.

HRS producers will continue their tradition of above-average compliance in the ARP, although enrollment in 1984's program is lower than the heavy participation in 1983. North Dakota and Montana, two major HRS-producing areas, were leaders in the initial base acreage enrollment at 79 and 78 percent, respectively, compared with 93 and 83 percent in 1983. Participation jumped to 81 percent for both States after the final 1984 signup period. Spring wheat growers are likely to withdraw a larger share of acreage from production than growers of any other class. An early forecast of 1984 HRS production could fall within a range of 325-400 million bushels, up from 313 million in 1983.

Durum

Durum Stocks Lower; Larger 1984 Crop in View

The record supplies that have characterized the Durum wheat market for the last two seasons have gradually dissipated, even though 1983/84 marketings have not appreciably increased. Because of the short 1983 crop (half the size of 1982's 148 million bushels), the smaller Durum supply caused market prices to be at a premium

Cattle on Feed, April

Corn Belt		Plains	
1984 as a percent of 1983			
Iowa	78	Kansas	110
Illinois	84	Nebraska	98
Minnesota	86	Oklahoma	104
		Texas	124

all year. Only during the typical winter marketing lull did Durum farm prices slip below \$4 a bushel.

Despite the higher prices relative to other classes, Durum exports can be considered rather successful. One reason was reduced 1983 wheat crops in Northern Africa, which more than doubled U.S. export sales to this area. This helped to offset reduced sales to some EC markets. Current shipments are well ahead of a year ago, validating the forecast that total 1983/84 Durum exports are likely to be around 65 million bushels, up 10 percent from last season.

Projected yearend stocks of about 100 million bushels can still be considered quite high relative to years prior to the past two seasons. Yet, because over 70 percent of the stocks will continue to be isolated from the market in the FOR and CCC inventory, tightening free supplies will maintain reasonably high market prices until the new-crop harvest. Even though Durum prices are strong, reserve stocks cannot be marketed without penalty until the national average farm price reaches \$4.65 a bushel, an unlikely event next season.

Expected grower participation in the 1984 program will be down from 1983's high. This was confirmed by Durum growers planting intentions of nearly 3.9 million acres this spring, up 50 percent from 1983. Intended seedings in North Dakota, the primary Durum producer, are up 48 percent. Program compliance for "Desert Durum" of the Southwest will remain low, but an increase in participation in other growing areas, because of the revised program, will reduce the harvested acreage prospects slightly. Good planting conditions suggest that the 1984 Durum crop could fall between 100 and 130 million bushels, compared with last year's 73 million. This will trim some of the pressure on Durum prices created by the season's tight free stocks.

Soft Red Winter

SRW Export Season Falters; 1984 Production To Expand

The main happening that reflects on the 1983/84 supply, demand, and price situation for Soft Red Winter (SRW) wheat is the manner in which China almost deserted the U.S. SRW market. Every year since 1977/78, the Chinese have been the largest single buyer of SRW. In 1981/82 and 1982/83, they were the number one customer of U.S. wheats. This expanding demand season after season was the important impetus that aided the expansion of SRW wheat production into the southeastern United States in the late 1970's.

A U.S. China textile trade disagreement, a record 1983 Chinese wheat harvest, and frequent switching to buying HRW caused this year's Chinese purchases to drop to about 1.5 million tons, 68 percent below a year ago. Instead of China, Morocco will likely be the largest SRW foreign buyer in 1983/84. Projected total shipments will be down about 110 million bushels from a year ago, nearly matching the reduced 1983 crop.

Because of the sluggish demand, monthly average farm prices have been consistently below the \$3.65-a-bushel national average loan rate by 10 to 40 cents. Only this spring have SRW prices faced some upward prospects. This is because the large volume of grain under loan will likely be placed into the FOR or be forfeited to CCC rather than be sold at market prices below the loan rate. This tightening of supplies may be of only short term, as a large 1984 harvest nears. A delayed harvest could extend the early season price upswing.

Although 1983/84 prices have been disappointing, SRW producers increased 1984 plantings, even facing another ARP. However, seeding was up only 500,000 acres from 1983's 15.8 million. Growers initial enrollment in the 1984 program represented only 1 of every 3 base acres, compared with compliance of 2 out of 3 acres in 1983. The preponderance of growers prefer to continue double cropping their acreage. This suggests that new-crop harvested area will be nearly 1 million acres larger than a year ago. As of May 1, 1984's production of SRW is forecast at 532 million bushels, the second successive crop of this magnitude. A 1981 harvest of 678 million was tops.

White

White Wheat Stocks Remain Large; 1984 Harvest Expected To Top 300 Million Bushels

Record large supplies of White wheat continue to burden the market during the 1983/84 season. June-March disappearance about matched last year's, leaving the April 1 stocks at 212 million bushels, the highest ever for that date.

This season's total exports are projected to about match those of a year ago, at 210 million bushels, but considerably under the record shipments of 270 million in 1981/82. A number of Asian buyers have increased purchases, which helped to offset reduced loadings to India and Egypt. The resulting competition from a record 1983 Australian harvest of 22 million metric tons placed added pressure on the 1983/84 White wheat export activity, causing some lost U.S. sales.

In relation to the large supplies, the rather sluggish export activity caused 1983/84 White wheat terminal market (Portland) prices to adjust downward all season. Also at midseason, nearly half of the stocks held in the FOR changed status as PIK entitlements, which increased the availability of the record supplies.

Seeding for the 1984 White winter wheat crop was up about 2 percent in the West and 15 percent in the East compared with 1983. Signup in the 1984 program indicated participation would be off about 5 percentage points from a year ago. The revised program features may add only slightly to the enrolled base acreage. Nevertheless, harvested area will likely be larger in 1984. With most acreage yielding close to 60 bushels an acre, the total 1984 White wheat crop should be near 1983's 335 million bushels.

Relationships Between Quarterly Wheat Prices and Stocks

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Abstract: Several versions of a model relating quarterly wheat prices to quarterly wheat stocks are estimated for 1971-81¹. Results are consistent with expectations that higher stocks within any quarter are associated with lower wheat prices and that a given level of stocks later in the marketing year gives lower prices than the same level does earlier in the marketing year. The model's forecasting ability is assessed by estimating quarterly wheat prices for 1982 and 1983. Depending on the estimated version of the model, the average forecast error for the quarters of 1982 was 20 to 24 cents a bushel, and for 1983, 29 to 31 cents.

Keywords: Wheat, prices, stocks, free stocks, forecasts, quarterly econometric model.

This paper investigates the relationship between wheat stocks and prices in a quarterly framework. As found in the annual framework (Van Meir), higher ending stocks result in lower farm-level prices. The effect of stocks on prices, however, differs through the marketing year, largely reflecting the annual nature of wheat production. Early in the marketing year, large levels of stocks are necessary to meet demand until the next harvest. As the marketing year progresses and the next harvest approaches, lower stocks are sufficient to meet use requirements. Consequently, a given level of stocks later in a marketing year results in lower prices than the same level does earlier in the marketing year.

The Model

The general framework used, which relates quarterly prices to ending stocks, can be derived from either a disequilibrium model, where ending stocks clear the market as a residual, or from an equilibrium model, which explicitly includes a demand equation for ending stocks. In a quarterly framework, the former is probably more appropriate, because with shorter periods, the market is more likely to be observed adjusting rather than approximating equilibrium.

The functional form used derives from the general hyperbolic function $(P-a)(S-d) = c$ where P is the quarterly wheat price, S denotes quarterly ending stocks of wheat, and a , c , and d are parameters. To avoid nonlinearities in estimation, the parameter d is assumed to equal 0. Solving for price, $P = a + c S^{-1}$. To represent the different effects of stocks through the year, a separate c parameter is assumed for each quarter. Also, S is measured relative to the "scale of activity" in the wheat industry, represented here by use (U). It is necessary to consider the level of activity because a larger market

requires a greater level of stocks to keep marketing channels filled, and the wheat industry has grown sharply over the last 15 years. Further, lagged price is included to reflect short-term "stickiness" of prices. Stickiness in prices from quarter to quarter may reflect partial adjustment caused by relative bargaining positions of market participants and/or expectations based on incomplete market information, which prevent complete adjustments in the short run. Inclusion of lagged price also allows the analysis to be conducted using nominal prices, thereby circumventing the issue of choosing an appropriate price deflator. These adjustments result in the following equation:

$$(1) \quad P = a + b \text{ lag}(P) + \sum_{i=1}^4 c_i D_i (S/U)^{-1}$$

D_i are quarterly dummy variables (equal to 1 in the i -th quarter, 0, elsewhere), $\text{lag}(P)$ is the 1-quarter lag of P , and a , b , and c_i are parameters to be estimated. The subscripts " i " denote quarters, where $i=1$ is the January-March quarter, $i=2$ is the April-May quarter, $i=3$ is the June-September quarter, and $i=4$ is the October-December quarter.

The inclusion of four $c_i D_i (S/U)^{-1}$ terms allows a different effect of stocks on prices in each quarter. Each c_i is expected to be positive, with the largest coefficient occurring in the harvest quarter, and successively smaller coefficients occurring in the three following quarters. Thus, equation (1) is expected to yield a family of hyperbolic curves such as in figure 1, which shows prices related to the stocks-to-use ratio². As this ratio

¹The model discussed here is part of a quarterly situation and outlook forecasting model of the agricultural sector being developed by ERS.

²While the hyperbolae being estimated can be expressed to show a direct relationship between prices and the stocks-to-use ratio (S/U) as shown in figure 1, the inverse of that ratio, $(S/U)^{-1}$, is the appropriate explanatory variable for use in estimating equation (1). Therefore, the inverse of the stocks-to-use ratio will be referred to in the discussion of estimation results, but the stocks-to-use ratio will be referred to in discussing implications drawn from those parameter estimates.

increases in any particular quarter, price falls, indicated by a move along that quarter's curve. Also, for any given stocks-to-use ratio, (such as S^0/U^0), the resulting prices ($p_h^0, p_{h+1}^0, p_{h+2}^0, p_{h+3}^0$) are smaller later in the marketing year, indicated by a move from one curve to the next.

Data—Definitions and Sources

The data used to estimate equation (1) are published by USDA. The farm price of wheat is a monthly series published in *Agricultural Prices*. Quarterly prices were derived by averaging the monthly prices from each quarter. Use and total stocks data are from supply and disappearance tables for wheat published in the *Wheat Outlook and Situation* and are based on SRS data from various sources³. Data for the categories that compose total stocks are from ASCS.

Three alternative stocks definitions were used in estimating equation (1): total stocks and two alternative free-stock (SF) definitions. Total stocks (ST) include stocks that are privately held, owned by the CCC, under outstanding CCC loans, and in FOR. The first free-stock definition (SFONE) is total stocks less CCC-owned stocks, less FOR stocks. The second free-stock definition (SFTWO) further subtracts outstanding CCC loans from total stocks. The SFTWO definition represents removal of all Government program stocks, while the SFONE definition includes outstanding CCC loans, which can be redeemed at any time without penalty. Units for stocks and use categories are million bushels, while units for prices are dollars per bushel.

Model Estimation

Equation (1) was estimated over 1971-81 (44 observations) using each of the three stock definitions discussed earlier. The estimated equations are:

$$\begin{aligned}
 (2) \quad P &= 0.041 + 0.830 \log(P) + 1.071 D_1(ST/U)^{-1} \\
 &\quad (0.2) \quad (12.7) \quad (1.9) \\
 &+ 0.389 D_2(ST/U)^{-1} + 2.385 D_3(ST/U)^{-1} + 2.401 D_4(ST/U)^{-1} \\
 &\quad (0.9) \quad (2.6) \quad (3.1) \\
 R^2 &= .875 \quad MAE = .270 \quad TPE1 = 13 \quad TPE4 = 7 \\
 (3) \quad P &= 0.018 + 0.837 \log(P) + 0.878 D_1(SFONE/U)^{-1} \\
 &\quad (0.1) \quad (13.4) \quad (2.1) \\
 &+ 0.246 D_2(SFONE/U)^{-1} + 2.060 D_3(SFONE/U)^{-1} + 2.021 D_4(SFONE/U)^{-1} \\
 &\quad (1.0) \quad (2.8) \quad (3.3) \\
 R^2 &= .876 \quad MAE = .271 \quad TPE1 = 12 \quad TPE4 = 7 \\
 (4) \quad P &= -0.135 + 0.917 \log(P) + 0.520 D_1(SFTWO/U)^{-1} \\
 &\quad (0.4) \quad (14.5) \quad (1.4) \\
 &+ 0.135 D_2(SFTWO/U)^{-1} + 1.532 D_3(SFTWO/U)^{-1} + 1.499 D_4(SFTWO/U)^{-1} \\
 &\quad (0.7) \quad (2.0) \quad (2.6) \\
 R^2 &= .858 \quad MAE = .277 \quad TPE1 = 12 \quad TPE4 = 7
 \end{aligned}$$

Numbers shown in parentheses are t-statistics. The R^2 statistics indicate that over 85 percent of quarterly wheat price variation is explained by each equation. The mean absolute error (MAE) over the estimation period of 27.0 cents a bushel for equation (2) represents an 8.8-percent error (relative to the average price over the estimation period of \$3.06 a bushel). The MAE of 27.1 cents a bushel for equation (3) is an 8.9-percent error, and the MAE of 27.7 cents a bushel for equation (4) is a 9.0-percent error. TPE1 and TPE4 are the number of one-quarter and four-quarter turning point errors over the 44-quarter estimation period⁴. These indicate reasonably good performance by all three equations, especially regarding the four-quarter turning point errors. Further, although more than a fourth of the observations had one-quarter turning point errors, this may be reflecting the inconsistent seasonal pattern demonstrated by wheat prices in the latter half of the marketing year. Over the estimation period, quarter-to-quarter wheat price movements in the second half of the marketing years showed a nearly equal number of increases and decreases⁵.

Most of the estimated coefficients in equations (2), (3), and (4) are significant at the 5-percent level. As expected, all coefficients of the inverses of stocks-to-use ratios are positive. In each equation, the $(S/U)^{-1}$ coefficients for the third and fourth quarters are nearly equal, with successive quarters' coefficients diminishing in size. Consistent with expectations, equations (3) and (4) have the largest coefficient in the harvest quarter (June-September, subscript $i = 3$). Equation (2), however, has the largest coefficient in the fourth quarter. Lagged price plays an important role in each equation, implying the validity of the partial adjustment model.

Plots

Figures 2, 3, and 4 show plots of the quarterly hyperbolic curves that result from the estimated equations. The figures are intended to show the relative positions of the estimated hyperbolae relating price to the stocks-to-use ratio, holding other things constant. Therefore, a single value for the lagged price was used to construct the figures. The price used was \$3.06 a bushel, the mean value for lagged price over the estimation period. The four curves in each figure are then drawn by successively setting each quarterly dummy variable equal to one, while the other dummy variables are set equal to zero.

Each figure shows four hyperbolae from the same "family of curves." This is a consequence of each estimated equation being restricted to have the same intercept and the same lagged price coefficient (partial adjustment parameter) across quarters. In each figure, higher stocks relative to use within any quarter give lower prices. Because the estimated equations have nearly identical coefficients on the third and fourth quarter stocks-to-use

³The use data have been adjusted because the wheat marketing year has "uneven" quarters—two 3-month quarters, one 2-month quarter, and one 4-month quarter. This adjustment is done by multiplying use in the April-May quarter by 1.5 and use in the June-September quarter by 0.75. Thus, all four quarters of adjusted use data are on a prorated, 3-month equivalent basis, thereby allowing the "scale of activity" deflation of stocks to be comparable.

⁴An i -quarter turning point error (for i equal to 1 or 4) is defined to occur when the direction of the predicted change is opposite that of the actual change. Mathematically, this occurs when $(p_t - a_t, i)(a_t - a_{t-1}, i)$ is negative, where p and a are the predicted and actual prices, respectively, in the quarter indicated by the subscript.

⁵Attempts were made to relate this phenomenon to preharvest expectations regarding the size of the new crop. This was done by adding planted acreage variables to first- and second-quarter observations in the specifications of equations (2), (3), and (4). However, the hypothesized role for these variables was not supported.

Figure 1

Hyperbolic Family of Curves Relating Quarterly Prices to the Stocks-to-use Ratio

Prices (P)

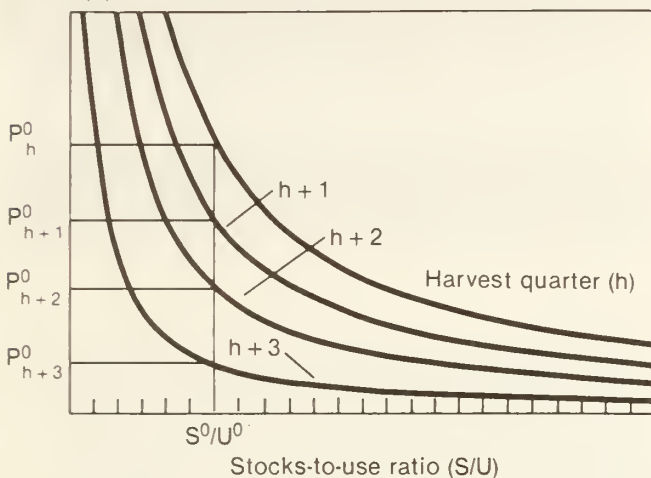
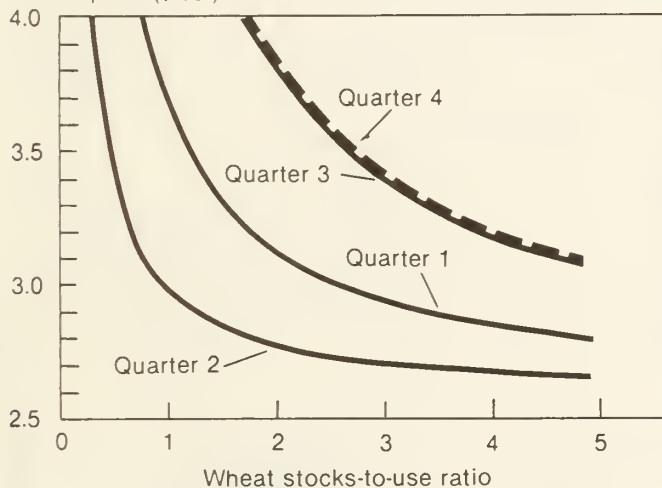


Figure 2

Plot of Estimated Equation (2)

Wheat price (\$/bu.)



variables, the plots of those quarters' curves are nearly coincident in each figure. Consistent with expectations, figures 3 and 4 show the third-quarter curves (harvest quarter) above the fourth-quarter curves. In figure 2, however, the fourth-quarter curve is slightly above the third-quarter curve, although the difference is not statistically significant. For all three figures, higher stocks relative to use later in the marketing year give lower prices, as indicated by the positions of the first- and second-quarter curves.

Model Estimates for 1982 and 1983

To assess the performance of the estimated equations, each was used to derive quarterly wheat prices for 1982 and 1983, 2 years beyond the estimation period. In each quarter, actual lagged price, stocks, and use data were used. For 1983, an adjustment was made in the stocks data for the third and fourth quarters to reflect the

Figure 3

Plot of Estimated Equation (3)

Wheat price (\$/bu.)

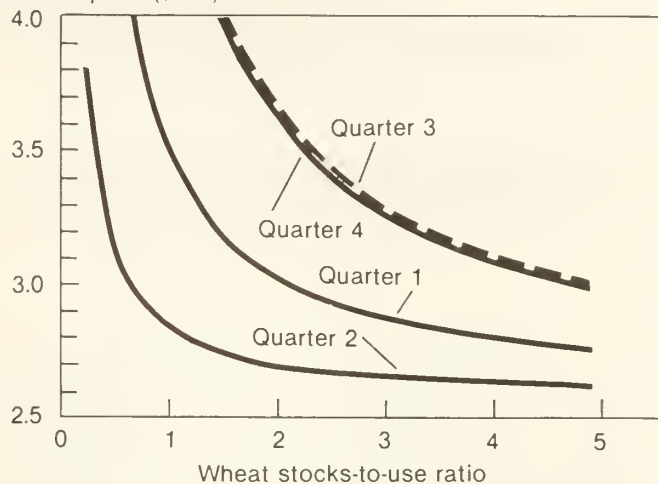
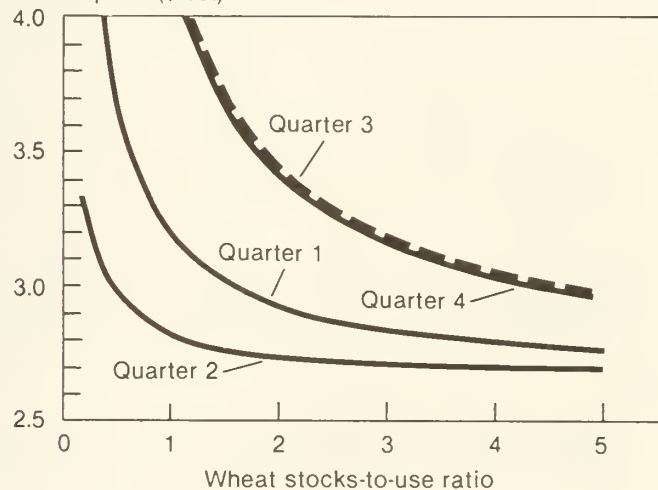


Figure 4

Plot of Estimated Equation (4)

Wheat price (\$/bu.)



effects of the PIK program. PIK entitlement stocks in the FOR or in CCC inventories (stock positions not normally considered free) were included as free stocks after the PIK participants' 5-month entitlement period had begun. For all wheat, the 5-month entitlement period began in the June-September quarter, so PIK wheat in the FOR or owned by CCC was assumed to be free. This amount was estimated to be 365 million bushels for the third quarter and 310 million bushels for the fourth quarter. These adjustments affect equations (3) and (4) in the third and fourth quarters of 1983, but do not affect equation (2) because it uses total stocks.

Table 1 shows the actual 1982 and 1983 quarterly wheat prices, the three equations' estimates, and summary statistics for each equation in each year. For 1982, all MAE's are less than the average attained by each equation over the entire estimation period. The MAE's are 24.2 cents a bushel for equation (2) (6.8 percent of the

average 1982 wheat price), 23.0 cents a bushel for equation (3) (a 6.5-percent error), and 19.5 cents a bushel for equation (4) (a 5.5-percent error).

Two 1-quarter turning point errors occur for each equation in 1982 and one 4-quarter turning point error occurs. As in the estimation period, this again is partly due to the inconsistent seasonal pattern of wheat prices in the second half of the wheat marketing year.

For 1983, although the MAE's are larger than for 1982, the percent errors are all less than the average percent errors attained by each equation over the estimation period. The MAE of 31.1 cents a bushel for equation (2) represents an 8.6-percent error and the MAE's of 29.3 and 29.6 cents a bushel for equations (3) and (4) represent 8.1- and 8.2-percent errors, respectively.

Two 1-quarter turning point errors occur for each equation in 1983. Equation (3) has two 4-quarter turning point errors, with equations (2) and (4) each having one 4-quarter turning point error. The inconsistent seasonal pattern of wheat prices in the second half of the wheat marketing year again contributes to this, although some of the 1983 forecasting difficulties may have partially resulted from the combined effects of PIK and the 1983 drought.

Model Projections for 1984

Table 2 shows projections for quarterly wheat prices for 1984. The unadjusted equation estimates are generated in the same way as those for 1982 and 1983, except that forecasts, rather than actual data, are used where needed for stocks and lagged prices. Table 2 also shows adjusted wheat price projections for 1984, where each unadjusted estimate has been adjusted to reflect the prediction errors attained in 1982 and 1983. This was done by adding or subtracting the average error attained in each quarter by each equation over 1982 and 1983. Assuming normal seasonality in prices into 1985, these adjusted projections are consistent with the USDA wheat prices forecast for the full 1984/85 season beginning this June of \$3.20 to \$3.50 a bushel.

Conclusion

Quarterly hyperbolic equations have been estimated relating wheat prices to ending wheat stocks. Three stocks definitions were used—total stocks, a free-stock definition subtracting CCC inventories and FOR loans from total stocks, and a second free-stocks definition further subtracting CCC loans. For each definition, higher stocks relative to use within any quarter give

Table 1—Quarterly wheat price estimates, 1982 and 1983

Time period	Wheat prices			
	Actual	Equation 2 estimates	Equation 3 estimates	Equation 4 estimates
<i>Dollars per bushel</i>				
1982 Jan.-Mar.	3.72	3.63	3.86	3.84
Apr.-May	3.66	3.33	3.48	3.54
June-Sept.	3.34	3.67	3.88	3.84
Oct.-Dec.	3.47	3.26	3.54	3.51
1983 Jan.-Mar.	3.60	3.29	3.87	3.70
Apr.-May	3.75	3.16	3.46	3.47
June-Sept.	3.53	3.77	3.89	3.95
Oct.-Dec.	3.54	3.63	3.79	3.92
Summary statistics				
1982				
MAE	—	.242	.230	.195
TPE1 (number)	—	2	2	2
TPE4 (number)	—	1	1	1
1983				
MAE	—	.311	.293	.296
TPE1 (number)	—	2	2	2
TPE4 (number)	—	1	2	1

Table 2—Quarterly wheat price projections, 1984

Time period	Wheat prices		
	Equation (2) projections	Equation (3) projections	Equation (4) projections
<i>Dollars per bushel</i>			
Unadjusted			
1984 Jan.-Mar.	3.33	3.49	3.68
Apr.-May	3.06	3.14	3.49
June-Sept.	3.57	3.83	3.80
Oct.-Dec.	3.31	3.72	3.77
Adjusted			
1984 Jan.-Mar.	3.53	3.29	3.57
Apr.-May	3.52	3.37	3.69
June-Sept.	3.28	3.38	3.34
Oct.-Dec.	3.37	3.56	3.56

lower wheat prices. As expected, the equations for both free-stocks definitions imply that any particular level of stocks gives higher prices early in the marketing year than the same level does later in the marketing year. However, for the total stocks equation, third- and fourth-quarter stocks coefficients were not consistent with this expectation, although the other quarters' stocks coefficients were.

Wheat price estimates for 1982 and 1983 indicate reasonably good model performance for quarters outside the estimation period. The equations using the two free-stocks definitions performed better than the total stocks equation. Forecasting problems encountered in the 1983

estimates may have been partly related to the unusual circumstances caused by the PIK program and the drought.

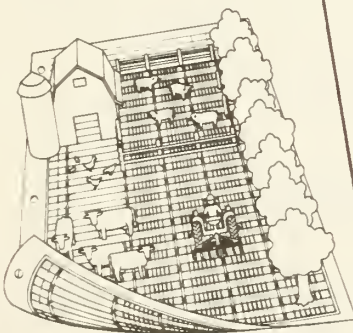
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Earnings

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Table 1.--Wheat: Supply, disappearance, area, and prices, marketing years 1981-84*

Item	1981/82	1982/83	1983/84 (prel.)	1984/85 (proj.)
<u>Million bushels</u>				
<u>Supply</u>				
Beginning stocks, June 1	989	1,164	1,541	1,392
Production	2,799	2,812	2,425	2,550 + 190
Imports 1/	3	8	3	3
Total	3,791	3,984	3,969	3,945 + 190
<u>Domestic disappearance</u>				
Food	602	616	625	630 + 5
Seed	112	97	102	95 + 5
Feed 2/	142	221	425	400 + 75
Total	856	934	1,152	1,125 + 80
<u>Exports 1/</u>	1,771	1,509	1,425	1,350 + 150
Total disappearance	2,627	2,443	2,577	2,475 + 175
<u>Ending stocks, May 31</u>	1,164	1,541	1,392	1,470 + 175
<u>Million acres</u>				
<u>Area</u>				
Planted	88.9	87.4	76.8	---
Harvested	81.0	79.0	61.5	---
Set aside and diverted	--	5.8	28.2	---
National base acreage	84.5	90.7	90.9	93.7
<u>Bushels per acre</u>				
Yield per harvested acre	34.5	35.6	39.4	
<u>Dollars per bushel</u>				
<u>Prices</u>				
Received by farmers	3.65	3.55	3.50	3.20-3.50
Loan rate	3.20	3.55	3.65	3.30
Target rate	3.81	4.05	4.30	4.38

1/ Imports and exports include flour and other products expressed in wheat equivalent. 2/ Residual, approximates feed use and includes negligible quantities used for alcoholic beverages.

* Totals may not add due to rounding.

Table 2.--Wheat classes: Marketing year supply and disappearance 1/

Year beginning June 1	Supply			Disappearance			Ending stocks May 31
	Begin- ning stocks	Pro- duction	Total <u>2/</u>	Domestic use	Exports	Total	
<u>Million bushels</u>							
<u>1980/81</u>							
Hard Winter	440	1,181	1,621	379	701	1,080	541
Hard Spring	285	312	598	153	188	341	257
Soft Red	40	435	475	138	299	437	38
White	76	338	414	54	267	321	93
Durum	61	108	171	52	59	111	60
All classes	902	2,374	3,279	776	1,514	2,290	989
<u>1981/82</u>							
Hard Winter	541	1,117	1,658	365	754	1,119	539
Hard Spring	257	468	726	173	205	378	348
Soft Red	38	676	714	194	460	654	60
White	93	352	445	66	270	336	109
Durum	60	186	248	58	82	140	108
All classes	989	2,799	3,791	856	1,771	2,627	1,164
<u>1982/83</u>							
Hard Winter	539	1,255	1,794	359	679	1,038	756
Hard Spring	348	500	852	187	239	426	426
Soft Red	60	613	673	273	325	598	75
White	109	296	405	55	207	262	143
Durum	108	148	260	60	59	119	141
All classes	1,164	2,812	3,984	934	1,509	2,443	1,541
<u>1983/84 3/</u>							
Hard Winter	756	1,193	1,949	538	710	1,248	701
Hard Spring	426	313	740	191	225	416	324
Soft Red	75	511	586	296	215	511	75
White	143	335	478	79	210	289	189
Durum	141	73	216	48	65	113	103
All classes	1,541	2,425	3,969	1,152	1,425	2,577	1,392

1/ Data, except production, are approximations. Imports and exports include flour and products in wheat equivalent. 2/ Total supply includes imports.

3/ Projected.

Table 3.--Wheat: Marketing year supply and disappearance, specified periods, 1980-84*

Year and period	Supply				Ending stocks		
	Beginning stocks	Production	Imports <u>1/</u>	Total	Gov't owned	Privately owned <u>2/</u>	Total
- - <u>-Million bushels-</u> - -							
<u>1980/81</u>							
June-Sept.	902.0	2,374.3	0.8	3,277.1	201.1	2,271.2	2,472.3
Oct.-Dec.	2,472.3	---	0.6	2,472.9	203.5	1,699.7	1,903.2
Jan.-Mar.	1,903.2	---	0.7	1,903.9	202.6	1,126.0	1,328.6
Apr.-May	1,328.6	---	0.4	1,329.1	199.7	789.1	988.8
Mkt. year	902.0	2,374.3	2.5	3,278.8	199.7	789.1	988.8
<u>1981/82</u>							
June-Sept.	988.8	2,798.7	0.7	3,788.2	191.6	2,543.6	2,735.2
Oct.-Dec.	2,735.2	---	0.8	2,736.0	190.6	1,987.4	2,178.0
Jan.-Mar.	2,178.0	---	0.8	2,178.8	189.1	1,368.0	1,557.1
Apr.-May	1,557.1	---	0.5	1,557.6	190.3	973.6	1,163.9
Mkt. year	988.8	2,798.7	2.8	3,790.3	190.3	973.6	1,163.9
<u>1982/83</u>							
June-Sept.	1,163.9	2,812.3	1.2	3,977.4	190.6	2,796.7	2,987.3
Oct.-Dec.	2,987.3	---	3.0	2,990.3	185.4	2,335.3	2,520.7
Jan.-Mar.	2,520.7	---	2.7	2,523.4	185.2	1,691.9	1,877.1
Apr.-May	1,877.1	---	0.7	1,877.8	192.0	1,348.7	1,540.7
Mkt. year	1,163.9	2,812.3	7.6	3,983.8	192.0	1,348.7	1,540.7
<u>1983/84 4/</u>							
June-Sept.	1,540.7	2,425.4	1.2	3,967.3	157.5	2,808.6	2,966.1
Oct.-Dec.	2,966.1	---	0.9	2,967.0	165.6	2,158.9	2,326.4
Jan.-Mar.	2,326.4	---	1.1	2,327.5	167.1	1,585.7	1,752.8
Apr.-May							
Mkt. year							
Disappearance							
Year and period	Domestic use				Exports 1/	Total disappearance	
	Food	Seed	Feed <u>3/</u>	Total			
- - <u>-Million bushels-</u> - -							
<u>1980/81</u>							
June-Sept.	197.2	38.0	51.2	286.4	518.4	804.8	
Oct.-Dec.	167.1	44.0	-12.8	198.3	371.4	569.7	
Jan.-Mar.	150.1	1.0	23.7	174.8	400.4	575.2	
Apr.-May	96.1	31.0	-10.4	116.7	223.6	340.3	
Mkt. year	610.5	114.0	51.7	776.2	1,513.8	2,290.0	
<u>1981/82</u>							
June-Sept.	202.5	37.0	191.7	431.2	621.8	1,053.0	
Oct.-Dec.	159.0	46.0	-74.4	130.6	427.4	558.0	
Jan.-Mar.	151.7	1.0	28.0	180.7	441.0	621.7	
Apr.-May	89.2	28.0	-4.0	113.2	280.5	393.7	
Mkt. year	602.4	112.0	141.3	855.7	1,770.7	2,626.4	
<u>1982/83</u>							
June-Sept.	206.4	37.0	201.1	444.5	545.6	990.1	
Oct.-Dec.	161.8	40.0	-24.8	177.0	292.6	469.6	
Jan.-Mar.	151.4	1.0	51.8	204.2	442.1	646.3	
Apr.-May	96.8	19.0	-7.0	108.8	228.3	337.1	
Mkt. year	616.4	97.0	221.1	934.5	1,508.6	2,443.1	
<u>1983/84 4/</u>							
June-Sept.	210.1	37.0	278.8	525.9	475.3	1,001.2	
Oct.-Dec.	160.7	43.0	74.9	278.6	362.6	641.2	
Jan.-Mar.	156.0	1.0	49.3	206.3	364.4	570.7	
Apr.-May							
Mkt. year							

1/ Imports and exports include flour and other products expressed in wheat equivalent. 2/ Includes outstanding and reserve loans. 3/ Residual; approximates feed use and includes negligible quantities used for alcohol beverages. 4/ Preliminary.

* Totals may not add due to rounding.

Table 3A.--Wheat flour: Supply and disappearance, United States, 1970-83

Calendar year	Wheat ground	Millfeed production	Flour production 1/	Flour and product imports 2/	Total supply
	1,000 bu.	1,000 tons	- - - -1,000 cwt- - - -		
1970	563,714	4,409	253,094	325	253,419
1971	555,092	4,279	249,810	341	250,151
1972	557,801	4,303	250,441	477	250,918
1973	567,287	4,395	254,661	550	255,211
1974	562,962	4,483	251,097	665	251,762
1975	582,675	4,701	258,985	621	259,606
1976	618,284	4,920	275,077	604	275,681
1977	618,125	4,787	275,784	604	276,388
1978	621,321	4,860	277,950	773	278,723
1979	636,375	4,945	284,051	823	284,874
1980	628,599	4,866	282,655	904	283,559
1981	634,381	5,045	283,946	1,166	285,132
1982	640,158	5,137	284,965	1,496	286,461
1983 3/	686,983	5,563	306,066	1,109	307,175

Calendar year	Exports		Domestic disappearance	Total Population July 1	Per capita disappearance
	Flour	Products 2/			
	- - - - - 1,000 cwt - - - - -			Millions	Pounds
1970	26,054	14	227,351	205.1	111
1971	20,685	15	229,451	207.7	110
1972	20,335	19	230,564	209.9	110
1973	16,107	26	239,078	211.9	113
1974	14,453	33	237,276	213.9	111
1975	12,364	22	247,220	216.0	114
1976	16,064	44	259,573	218.0	119
1977	22,053	37	254,298	220.2	115
1978	22,170	43	256,510	222.6	115
1979	20,927	86	263,861	225.1	117
1980	17,378	54	266,127	227.7	117
1981	18,655	84	266,398	229.8	116
1982	20,926	154	265,381	232.1	114
1983 3/	34,969	150	272,056	234.3	116

1/ Commercial production of wheat flour, whole wheat, industrial and durum flour and farina reported by Bureau of Census. Production prior to 1970 includes estimate for non-commercial wheat milled. 2/ Imports and exports of macaroni products (flour equivalent).

3/ Preliminary. Note: Per capita disappearance is based upon the indicated population estimate. The estimates for 1970-81 have been adjusted to make them consistent with the 1980 census.

Table 4.--Wheat, flour, and wheat products, U.S. exports by months, 1981-84*

Year and month	Wheat	Flour <u>1/</u> (Grain equivalent)	Products <u>2/</u>	Monthly total	Cumulative total
<u>1,000 bushels</u>					
<u>1981/82</u>					
June	124,521	5,794	1,827	132,142	132,142
July	138,168	2,779	1,150	142,097	274,239
August	145,428	3,438	1,009	149,875	424,114
September	194,148	2,496	1,037	197,681	621,795
October	156,993	668	1,171	158,832	780,627
November	127,495	411	1,406	129,312	909,939
December	137,757	902	572	139,231	1,049,170
January	124,163	1,767	1,211	127,141	1,176,311
February	138,719	8,068	1,875	148,662	1,324,973
March	159,078	5,775	351	165,204	1,490,177
April	148,181	6,955	2,246	157,382	1,647,559
May	116,496	5,983	692	123,171	1,770,730
Mkt. year	1,711,147	45,036	14,547	1,770,730	
<u>1982/83</u>					
June	156,914	4,577	971	162,462	162,462
July	117,914	1,364	465	119,743	282,205
August	124,336	3,488	1,073	128,897	411,102
September	130,992	2,508	984	134,485	545,587
October	98,520	3,904	529	102,952	648,539
November	94,638	2,483	2,604	99,726	748,265
December	88,457	999	472	89,928	838,193
January	143,141	3,998	796	147,935	986,127
February	146,594	8,865	492	155,950	1,142,078
March	131,134	6,532	586	138,252	1,280,330
April	112,451	10,530	630	123,611	1,403,941
May	96,235	7,521	935	104,691	1,508,632
Mkt. year	1,441,326	56,769	10,537	1,508,632	
<u>1983/84</u>					
June	113,506	9,611	633	123,750	123,750
July	116,701	8,198	1,075	125,974	249,724
August	87,823	7,849	1,300	96,972	346,696
September	119,263	8,801	578	128,642	475,358
October	114,810	8,473	502	123,785	599,123
November	102,880	3,504	904	107,288	706,411
December	128,887	1,245	1,346	131,478	837,889
January	118,357	2,301	783	121,441	959,330
February	111,096	3,337	2,069	116,502	1,075,832
March	118,713	7,478	990	127,181	1,203,013
April					
May					
Mkt. year					

1/ Includes meal and groats. 2/ Includes macaroni and bulgar.

* Totals may not add due to rounding.

Table 5.--Wheat: Price support loan status on specified dates, 1980-84 crops

Crop year	Total stocks	Total CCC inventory	Outstanding CCC loans	Farmer-owned reserve	Free stocks
<u>Million bushels</u>					
1980/81					
Jan. 1	902.0	2/ 187.8	99.3	1/ 259.9	355.0
Oct. 1	2,472.3	2/ 201.1	121.9	1/ 214.4	1,934.9
Jan. 1	1,903.2	203.5	138.2	1/ 229.1	1,332.4
Apr. 1	1,328.6	202.6	96.8	1/ 353.2	676.0
1981/82					
Jan. 1	988.8	199.7	54.6	359.6	374.9
Oct. 1	2,735.2	191.6	191.8	431.1	1,920.7
Jan. 1 3/	2,178.0	190.6	201.3	475.4	1,310.7
Apr. 1	1,557.1	189.1	162.1	534.6	671.3
1982/83					
Jun. 1	1,163.9	190.3	112.0	560.4	301.2
Oct. 1	2,987.3	190.6	97.1	869.0	1,830.6
Jan. 1	2,520.7	185.4	102.7	1,017.8	1,214.8
Apr. 1	1,877.1	185.2	81.8	1,094.9	515.2
1983/84					
Jun. 1	1,540.7	192.0	65.3	1,060.5	222.9
Oct. 1	2,966.1	157.5	310.3	815.2	1,683.1
Jan. 1	2,326.4	165.6	404.2	702.6	1,052.1

1/ Reserve data as reported by telephone survey. 2/ Fiscal inventory figures were adjusted to reflect purchases bring made during this period. 3/ FOR and loan data based on telephone survey.

Table 6.--White pan bread: Estimated price and marketing spreads of ingredients per 1-pound loaf and per cwt of flour, Oct.-Dec. 1982/83*

Item <u>1/</u>	Oct.-Dec. 1982		Oct.-Dec. 1983	
	Value per loaf	Value per cwt of flour	Value per loaf	Value per cwt of flour
	Cents	Dollars	Cents	Dollars
Retail price (BLS)	53.50	86.02	54.33	87.36
<u>Price spreads</u>				
Wholesale-to-retail <u>2/</u>	9.01	14.49	8.02	12.90
Baking <u>3/</u>	35.26	56.69	36.66	58.95
Flour milling	1.03	1.65	1.25	2.01
Other spreads				
Wheat, farm-to-flour mill	1.05	1.68	1.00	1.61
Other farm ingredients <u>4/</u>	.80	1.29	.89	1.43
Flour, flour mill-to-baker	.53	.86	.52	.83
Nonfarm ingredients <u>5/</u>	1.06	1.71	1.05	1.69
Total farm-retail price spread	48.74	78.36	49.39	79.42
<u>Farm value of ingredients</u>				
Wheat	4.19	6.73	4.08	6.56
Other farm ingredients	.58	.93	.86	1.39
Total farm value	4.76	7.66	4.94	7.95
<u>Cost of farm ingredients</u>				
Flour				
F.o.b. bakery	6.79	10.92	6.85	11.01
F.o.b. flour mill	6.26	10.07	6.33	10.18
Wheat <u>6/</u>				
F.o.b. flour mill	5.23	8.42	5.08	8.17
Farm value	4.19	6.73	4.08	6.56
Other farm ingredients				
F.o.b. bakery	1.38	2.21	1.75	2.81
Farm value	.58	.93	.86	1.39
<u>Dollars per cwt</u>				
<u>Prices of flour and millfeeds</u>				
Flour, f.o.b. bakery	10.92		11.01	
Flour, f.o.b. flour mill	10.07		10.18	
Millfeeds, f.o.b. flour mill	4.41		5.81	
<u>Dollars per bushel</u>				
<u>Prices of wheat</u>				
Wheat, f.o.b. flour mill	4.27		4.32	
Farm value	3.42		3.47	

1/ Price spreads may not add because of independent rounding. 2/ Difference between retail and wholesale price of bread. 3/ Difference between wholesale price and cost of bread ingredients, f.o.b. bakery. 4/ Includes processing, transportation, and merchandising for lard, soybean oil, HFCS, corn sirup, and soy-whey blend. Difference between estimated cost to baker and estimated farm value. 5/ Estimated cost to baker of yeast, yeast food, salt, and other nonfarm ingredients. 6/ Price adjusted for value of millfeeds.

*Due to the use of concurrent monthly prices without regard to time lags in the flow of commodities in computing quarterly white pan bread marketing spreads, price spreads presented here may be distorted because of unusual market forces in 1983.

Spreads are developed by L.D. Schnake (economist) and Janee Roche, ERS, USDA, at the U.S. Grain Marketing Research Laboratory, Manhattan, Kansas 66502, (913) 776-2700.

Table 7.--Wheat and flour: Price relationships at milling centers, annual and by periods, 1979-84

	At Kansas City					At Minneapolis				
Year and period	Cost of wheat to produce 100 lb. of flour	Wholesale price of				Cost of wheat to produce 100 lb. of flour	Wholesale price of			
		Bakery flour per 100 lb.	Byprod-ucts obtained 100 lb. flour	Total products			Bakery flour per 100 lb.	Byprod-ucts obtained 100 lb. flour	Total products	
				Actual	Over cost of wheat				Actual	Over cost of wheat
<u>1/</u>	<u>2/</u>	<u>3/</u>			<u>1/</u>	<u>2/</u>	<u>3/</u>			
<u>Dollars</u>										
1979/80										
June-Sept.	9.87	9.91	1.70	11.61	1.74	9.88	10.22	1.61	11.83	1.95
Oct.-Dec.	10.50	10.39	1.85	12.24	1.74	9.99	10.57	1.63	12.20	2.21
Jan.-Mar.	9.79	10.02	1.77	11.79	2.00	9.46	10.20	1.45	11.65	2.19
Apr.-May	9.24	9.75	1.50	11.25	2.01	9.61	10.04	1.36	11.40	1.79
Mkt. year	9.85	10.02	1.70	11.72	1.87	9.73	10.26	1.51	11.77	2.04
1980/81										
June-Sept.	9.81	10.11	1.81	11.92	2.11	10.46	10.83	1.63	12.46	2.00
Oct.-Dec.	10.80	10.54	2.38	12.92	2.12	11.29	11.04	2.05	13.09	1.80
Jan.-Mar.	10.31	10.44	1.95	12.39	2.08	10.98	11.05	1.67	12.72	1.74
Apr.-May	10.27	10.42	1.81	12.23	1.96	11.08	11.09	1.76	12.85	1.77
Mkt. year	10.30	10.38	1.99	12.37	2.07	10.95	11.00	1.78	12.78	1.83
1981/82										
June-Sept.	9.69	10.33	1.55	11.88	2.19	10.08	10.82	1.49	12.31	2.23
Oct.-Dec.	9.93	10.13	1.79	11.92	1.99	9.84	10.52	1.43	11.95	2.11
Jan.-Mar.	9.85	10.66	1.41	12.07	2.22	9.63	10.82	1.23	12.05	2.42
Apr.-May	9.76	10.38	1.52	11.90	2.14	9.64	10.54	1.48	12.02	2.38
Mkt. year	9.81	10.37	1.57	11.94	2.13	9.80	10.67	1.41	12.08	2.28
1982/83										
June-Sept.	9.24	10.14	1.39	11.53	2.29	9.31	10.43	1.25	11.68	2.37
Oct.-Dec.	9.22	10.06	1.58	11.64	2.42	9.22	10.43	1.29	11.72	2.50
Jan.-Mar.	9.60	10.40	1.47	11.87	2.27	9.15	10.41	1.10	11.51	2.36
Apr.-May	9.77	10.26	1.65	11.91	2.14	10.11	10.88	1.40	12.28	2.17
Mkt. year	9.46	10.22	1.52	11.74	2.28	9.45	10.54	1.26	11.80	2.35
1983/84 4/										
June-Sept.	9.54	10.36	1.72	12.08	2.54	9.97	11.17	1.47	12.64	2.67
Oct.-Dec.	9.48	10.00	2.16	12.16	2.68	9.76	10.79	1.90	12.69	2.93
Jan.-Mar.	9.22	9.52	1.83	11.35	2.13	9.56	10.28	1.49	11.77	2.21
Apr.-May										
Mkt. year										

1/ Based on 73-percent extraction rate, cost of 2.28 bushels: At Kansas City, No. 1 Hard Winter, 13-percent protein, and at Minneapolis, simple average of No. 1 Dark Northern Spring, 13-and 15-percent protein. 2/ Quoted as 95-percent patent at Kansas City and standard patent at Minneapolis, bulk basis. 3/ Assumed 50-50 millfeed distribution between bran and shorts or middlings, bulk basis. 4/ Preliminary.

Source: Compiled from reports of Agricultural Marketing Service and Department of Labor.

Table 8.--Wheat: Farm price for leading classes and major feed grains in region, 1980-84 ^{1/}

Commodity and year	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Simple average	Loan rate
<u>All prices for 60 pounds</u>														
<u>Central and So. Plains (Hard Winter) ^{2/}</u>														
<u>Wheat:</u>														
1980/81	3.49	3.63	3.75	3.86	4.10	4.19	4.01	4.08	3.99	3.83	3.88	3.75	3.88	2.94
1981/82	3.77	3.72	3.68	3.69	3.76	3.87	3.82	3.78	3.74	3.71	3.72	3.66	3.74	3.13
1982/83	3.49	3.37	3.34	3.38	3.36	3.43	3.49	3.51	3.51	3.61	3.74	3.72	3.50	3.36
1983/84	3.50	3.34	3.54	3.59	3.57	3.49	3.44	3.48	3.41	3.48				3.56
<u>Sorghum:</u>														
1980/81	2.58	2.94	3.06	3.18	3.31	3.33	3.34	3.33	3.28	3.14	3.18	3.12	3.15	2.27
1981/82	3.03	2.96	2.65	2.37	2.34	2.36	2.39	2.44	2.42	2.43	2.47	2.61	2.54	2.42
1982/83	2.60	2.57	2.49	2.44	2.26	2.34	2.41	2.48	2.68	2.84	2.96	3.02	2.59	2.57
1983/84	3.10	3.04	3.14	3.14	3.02	3.02	2.97	2.96	2.85	2.92				2.68
<u>Cornbelt (Soft Red Winter) ^{3/}</u>														
<u>Wheat:</u>														
1980/81	3.58	3.82	4.02	4.19	4.41	4.59	4.50	4.50	4.28	4.03	4.00	3.59	4.13	3.00
1981/82	3.35	3.46	3.36	3.45	3.56	3.68	3.70	3.71	3.40	3.36	3.42	3.23	3.47	3.20
1982/83	3.18	3.08	2.98	2.89	2.75	3.02	3.13	3.18	3.20	3.30	3.29	3.30	3.11	3.56
1983/84	3.25	3.25	3.54	3.49	3.36	3.37	3.42	3.46	3.22	3.38				3.66
<u>Corn:</u>														
1980/81	2.76	3.06	3.28	3.36	3.28	3.46	3.53	3.54	3.58	3.58	3.57	3.56	3.38	2.46
1981/82	3.47	3.44	3.11	2.76	2.64	2.52	2.54	2.74	2.63	2.66	2.77	2.86	2.85	2.62
1982/83	2.82	2.76	2.57	2.30	2.09	2.29	2.48	2.57	2.77	2.96	3.25	3.34	2.68	2.78
1983/84	3.39	3.43	3.81	3.68	3.46	3.54	3.52	3.48	3.45	3.61				2.87
<u>Northern Plains (Spring and Durum) ^{4/}</u>														
<u>Other spring</u>														
1980/81	3.82	4.04	3.95	3.96	4.15	4.24	4.18	4.23	4.19	4.15	4.25	4.24	4.12	3.02
1981/82	4.12	3.93	3.70	3.62	3.66	3.74	3.63	3.69	3.67	3.61	3.73	3.69	3.73	3.21
1982/83	3.62	3.59	3.46	3.45	3.44	3.51	3.47	3.45	3.41	3.61	3.82	3.86	3.56	3.57
1983/84	3.80	3.80	3.77	3.69	3.68	3.66	3.58	3.62	3.59	3.67				3.68
<u>Durum:</u>														
1980/81	N	O	T		A	V	A	I	L	A	B	L	E	3.02
1981/82	4.52	3.91	3.52	3.41	3.51	3.55	3.47	3.60	3.67	3.52	3.54	3.52	3.64	3.21
1982/83	3.50	3.36	3.10	3.09	3.19	3.25	3.16	3.40	3.22	3.47	3.82	4.00	3.38	3.57
1983/84	4.01	3.96	4.11	4.07	4.04	3.97	3.83	3.84	3.67	3.88				3.68
<u>Pacific Northwest (White) ^{5/}</u>														
<u>Wheat:</u>														
1980/81	3.53	3.71	3.67	3.80	4.03	4.12	4.08	4.05	4.06	4.11	4.02	4.08	3.94	3.08
1981/82	3.97	3.69	3.78	3.80	3.94	3.96	3.98	3.91	3.75	3.68	3.72	3.71	3.82	3.29
1982/83	3.71	3.62	3.74	3.76	3.86	3.91	3.98	4.07	4.15	4.18	4.13	4.04	3.93	3.65
1983/84	3.74	3.61	3.68	3.70	3.62	3.59	3.51	3.49	3.31	3.48				3.75
<u>Barley:</u>														
1980/81	3.16	3.34	3.32	3.35	3.70	3.80	3.99	4.07	4.15	4.07	3.95	3.99	3.74	2.40
1981/82	3.72	3.39	3.19	3.10	3.08	3.34	3.20	3.24	3.21	3.39	3.41	3.45	3.31	2.55
1982/83	3.25	3.02	3.11	2.73	2.58	2.70	2.94	2.83	2.88	2.82	3.01	3.10	2.91	2.71
1983/84	3.06	2.97	3.20	3.34	3.35	3.40	3.47	3.45	3.36	3.32				2.81
<u>U.S. average</u>														
<u>Wheat:</u>														
1980/81	3.69	3.81	3.94	3.99	4.19	4.32	4.22	4.21	4.17	4.09	4.07	3.95	6/3.91	3.00
1981/82	3.70	3.62	3.62	3.65	3.77	3.85	3.80	3.78	3.70	3.67	3.68	3.64	6/3.65	3.20
1982/83	3.39	3.26	3.34	3.38	3.43	3.48	3.51	3.57	3.57	3.66	3.77	3.77	6/3.55	3.55
1983/84	3.50	3.34	3.61	3.65	3.61	3.54	3.47	3.50	3.40	3.49				3.65

^{1/} To adjust price to relative feed value multiply: corn 1.00; wheat 1.05; barley .90; sorghum .95; reported in Consumption of Feed by Livestock, Report No. 79, ERS, USDA. ^{2/} Kansas, Nebraska, Texas, Oklahoma, and Colorado. ^{3/} Ohio, Indiana, Illinois, and Missouri. ^{4/} North Dakota, South Dakota, and Minnesota. ^{5/} Washington, Oregon, and Idaho. ^{6/} Season average price includes allowance for unredeemed loans and purchases.

Table 9.--Wheat: Cash prices for leading classes at major markets, 1980-84

Year	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Simple average
<u>Dollars per bushel</u>													
Kansas City, No. 1 Hard Red Winter (ordinary protein)													
1980/81	4.07	4.21	4.31	4.45	4.70	4.89	4.54	4.60	4.47	4.35	4.48	4.36	4.45
1981/82	4.24	4.25	4.14	4.19	4.31	4.46	4.35	4.33	4.26	4.25	4.28	4.22	4.27
1982/83	4.06	3.74	3.70	3.75	3.61	3.86	3.98	4.00	4.08	4.18	4.21	4.05	3.94
1983/84	3.92	3.71	3.88	3.90	3.84	3.82	3.85	3.81	3.71	3.85			
13% protein													
1980/81	4.12	4.25	4.34	4.49	4.70	4.91	4.60	4.67	4.50	4.40	4.57	4.44	4.50
1981/82	4.36	4.26	4.16	4.22	4.29	4.44	4.33	4.35	4.32	4.29	4.32	4.24	4.30
1982/83	4.15	4.12	4.00	3.94	3.80	4.09	4.24	4.19	4.17	4.27	4.35	4.22	4.13
1983/84	4.22	4.15	4.16	4.21	4.20	4.17	4.11	4.06	3.95	4.12			
Chicago, No. 2 Soft Red Winter													
1980/81	3.96	4.17	4.21	4.38	4.70	4.92	4.54	4.57	4.34	4.15	4.18	3.80	4.33
1981/82	3.60	3.70	3.70	3.87	3.97	4.08	3.86	3.77	3.57	3.59	3.70	3.43	3.74
1982/83	3.31	3.36	3.35	3.18	2.98	3.33	3.23	3.32	3.40	3.36	3.51	3.55	3.32
1983/84	3.53	3.59	3.71	3.62	3.56	3.42	3.55	3.47	3.34	3.57			
St. Louis, No. 2 Soft Red Winter													
1980/81	3.73	4.10	4.19	4.42	4.78	4.96	4.78	4.80	4.57	4.32	4.36	3.67	4.39
1981/82	3.41	3.54	3.56	3.67	3.74	4.05	3.90	3.76	3.60	3.61	3.72	3.31	3.66
1982/83	3.25	3.27	3.14	3.06	3.06	3.38	3.28	3.33	3.41	3.43	3.58	3.61	3.32
1983/84	3.46	3.51	3.79	3.70	3.62	3.58	3.67	3.62	3.46	3.71			
Toledo, No. 2 Soft Red Winter													
1980/81	3.84	4.14	4.16	4.38	4.82	5.02	4.65	4.70	4.47	4.16	4.16	3.76	4.36
1981/82	3.55	3.63	3.71	3.83	3.98	4.08	3.85	3.71	3.47	3.46	3.63	3.45	3.70
1982/83	3.35	3.36	3.28	3.09	2.84	3.19	3.23	3.28	3.32	3.29	3.45	3.47	3.26
1983/84	3.42	3.48	3.69	3.54	3.43	3.37	3.46	3.43	3.26	3.50			
Toledo, No. 2 Soft White													
1980/81	3.71	4.05	4.15	4.31	--	--	4.44	4.40	4.21	3.98	3.98	3.62	4.08
1981/82	3.43	3.62	3.77	3.91	3.99	4.10	3.82	3.68	3.49	3.47	3.61	3.45	3.70
1982/83	3.35	3.49	3.42	3.22	2.92	3.22	3.29	3.25	3.39	3.43	3.49	3.48	3.33
1983/84	3.42	3.51	3.71	3.56	3.42	3.36	3.46	3.43	3.25	3.50			
Portland, No. 1 Soft White													
1980/81	3.92	4.15	4.06	4.23	4.48	4.68	4.40	4.52	4.52	4.41	4.51	4.41	4.36
1981/82	4.26	4.27	4.25	4.21	4.38	4.42	4.00	4.12	4.09	4.02	4.14	4.24	4.20
1982/83	4.18	4.13	4.16	4.29	4.29	4.44	4.45	4.52	4.59	4.68	4.62	4.35	4.39
1983/84	4.15	4.08	4.06	4.12	4.03	3.90	3.81	3.79	3.69	3.73			
Minneapolis, No. 1 Dark No. Spring (ordinary protein)													
1980/81	4.19	4.54	4.22	4.17	4.62	4.78	4.62	4.65	4.53	4.32	4.41	4.44	4.46
1981/82	4.29	4.18	4.03	4.07	4.22	4.29	4.15	4.21	4.17	4.10	4.21	4.16	4.17
1982/83	4.08	4.08	3.78	3.79	3.78	3.85	3.76	3.80	3.82	4.01	4.34	4.25	3.94
1983/84	4.15	4.07	4.21	4.30	4.33	4.23	4.20	4.15	4.06	4.20			
14% protein													
1980/81	4.33	4.69	4.55	4.56	4.82	4.95	4.77	4.81	4.78	4.67	4.80	4.77	4.71
1981/82	4.56	4.50	4.25	4.23	4.29	4.38	4.22	4.28	4.21	4.16	4.25	4.20	4.29
1982/83	4.13	4.16	3.96	4.02	4.00	4.08	3.96	3.93	3.92	4.08	4.40	4.40	4.09
1983/84	4.39	4.38	4.34	4.33	4.33	4.25	4.21	4.17	4.08	4.24			
Hard Amber Durum, No. 1 (medium)													
1980/81	5.79	7.12	7.19	7.26	7.34	7.22	6.90	7.07	7.02	6.66	6.10	6.04	6.81
1981/82	4.86	4.91	4.75	4.56	4.60	4.58	4.51	4.59	4.57	4.45	4.45	4.49	4.61
1982/83	4.38	4.26	4.07	4.02	4.11	4.17	4.07	4.06	4.12	4.28	4.54	4.90	4.25
1983/84	4.76	4.74	5.04	5.10	4.99	4.91	4.82	4.81	4.69	4.70			

Source: Grain Market News, Agricultural Marketing Service.

Table 10.--Wheat: Export prices by months, at selected ports, 1980-84

Year	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Simple average
<u>Dollars per metric ton</u>													
<u>Gulf: No. 1 Hard Red Winter, ordinary protein</u>													
1980/81	158	169	171	180	188	195	182	187	182	175	180	172	178
1981/82	169	168	170	171	169	179	175	173	171	169	170	168	171
1982/83	156	152	153	153	147	155	160	165	165	166	167	160	158
1983/84	152	148	152	157	153	152	153	153	150	154	157		
<u>Gulf: No. 1 Soft Red Winter</u>													
1980/81	146	163	165	176	187	193	180	187	176	168	172	143	171
1981/82	133	136	140	147	150	157	151	148	142	144	149	128	144
1982/83	126	128	122	119	113	129	128	131	133	133	137	136	128
1983/84	132	135	145	142	140	140	142	140	133	143	148		
<u>Portland: No. 2 Western White</u>													
1980/81	147	158	157	162	172	180	170	174	173	166	166	165	166
1981/82	159	159	161	161	165	166	152	155	152	152	155	157	158
1982/83	156	153	158	162	161	167	168	169	172	174	172	163	165
1983/84	155	152	156	157	151	146	147	141	137	139	150		
<u>Duluth: No. 2 Northern Spring, 14% protein</u>													
1980/81	158	174	168	170	177	180	1/	1/	1/	1/	176	175	172
1981/82	170	164	159	156	158	161	1/	1/	1/	1/	164	154	161
1982/83	151	152	146	148	147	149	1/	1/	1/	1/	161	159	152
1983/84	160	159	159	158	163	159	1/	1/	1/	1/	159		

1/ No price quotes available.

Source: Grain Market News, Agricultural Marketing Service.

Table 11.--Wheat: Rotterdam, c.i.f., quotations by months, 1980-84 1/

Year	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Simple average
<u>Dollars per metric ton</u>													
<u>United States No. 2 Hard Winter, 13.5%</u>													
1980/81	203	204	209	214	224	233	235	233	225	212	211	206	217
1981/82	203	204	201	200	200	212	206	200	199	198	206	204	203
1982/83	176	176	2/	2/	2/	2/	2/	2/	2/	2/	2/	2/	176
1983/84	2/	2/	2/	2/	2/	2/	2/	2/	2/	2/			
<u>United States Dark Northern Spring, 14%</u>													
1980/81	197	194	189	212	216	226	235	245	240	209	210	207	215
1981/82	197	194	189	190	193	196	190	204	204	195	190	184	194
1982/83	178	178	174	174	171	177	183	185	178	172	186	186	178
1983/84	184	182	187	187	185	186	190	193	190	183			

1/ Hamburg Mercantile Exchange prices for Rotterdam. 2/ No price quotes available.

Source: World Grain Situation, Foreign Agricultural Service.

Table 12.--Wheat and wheat flour: World trade, production, stocks, and utilization, July-June 1980-84

Country or region	1980/81	1981/82	1982/83	1983/84 as of April 1
<u>Million metric tons</u>				
<u>Exports:</u>				
Canada	17.0	17.6	21.2	21.5
Australia	10.6	11.0	8.1	11.0
Argentina	3.9	4.3	7.4	9.0
EC-10	14.7	15.5	15.5	16.0
USSR	0.5	0.5	0.5	0.5
All others	5.5	3.6	5.5	4.8
Total non-U.S.	52.2	52.5	58.3	62.8
USA <u>1/</u>	41.9	48.8	39.9	38.1
World total	94.1	101.3	98.2	100.9
<u>Imports:</u>				
EC-10	4.5	4.7	3.7	4.0
USSR	16.0	19.5	20.2	20.0
Japan	5.8	5.6	5.8	5.6
E. Europe	5.9	6.3	4.3	4.1
China	13.8	13.2	13.0	10.0
All others	48.1	52.0	51.2	57.2
World total	94.1	101.3	98.2	100.9
<u>Production: 2/</u>				
Canada	19.2	24.8	26.8	26.9
Australia	10.9	16.4	8.9	20.5
Argentina	7.8	8.3	14.5	11.7
EC-10	55.1	54.4	59.8	59.2
USSR <u>3/</u>	98.2	80.0	86.0	78.0
E. Europe	34.6	30.6	34.7	34.9
China	55.2	59.6	68.4	81.0
India	31.8	36.3	37.5	42.5
All other foreign	65.1	63.8	67.7	66.3
USA	64.6	76.2	76.5	66.0
World total	442.4	450.4	480.8	487.9
<u>Utilization: 3/</u>				
USA	21.1	23.3	25.4	32.1
USSR <u>4/</u>	114.7	102.0	105.7	94.5
China	69.0	72.8	81.4	92.0
All other foreign	237.8	247.4	256.9	264.7
World total	442.6	445.5	469.4	482.3
<u>Stocks, ending: 5/</u>	80.6	85.5	96.9	102.0

1/ Includes transshipments through Canadian ports; excludes products other than flour. 2/ Production data include all harvests occurring within the July-June year shown, except that small grain crops from the early harvesting Northern Hemisphere areas are moved forward; i.e., the May 1980 harvests in areas such as India, North Africa, and Southern United States are actually included in 1980/81 accounting period, which begins July 1, 1980. 3/ Utilization data are based on an aggregate of differing local marketing years. For countries for which stock data are not available (excluding the USSR), utilization estimates represent apparent utilization, i.e., they are inclusive of annual stock level adjustments. 4/ "Bunker weight" basis: not discounted for excess moisture and foreign material. 5/ Stocks data are based on an aggregate of differing local marketing years and should not be construed as representing world stock levels at a fixed point in time. Stocks data are not available for all countries and exclude those such as China and part of Eastern Europe; the world stock levels have been adjusted for estimated year-to-year changes in USSR grain stocks, but do not purport to include the entire absolute level of USSR stocks.

Source: World Grain Situation, Foreign Agricultural Service.

Table 13.--Rye: Supply, disappearance, area, and prices, marketing years 1979-84*

Item	1979/80	1980/81	1981/82	1982/83 (prel.)	1983/84 (proj.)
<u>Million bushels</u>					
<u>Supply</u>					
Beginning stocks, June 1	9.0	12.2	4.1	3.1	6.4
Production	22.4	16.5	18.8	20.9	28.2
Imports	<u>1/</u>	<u>1/</u>	0.4	3.0	0.5
Total	31.4	28.7	23.4	27.0	35.1
<u>Domestic disappearance</u>					
Food	3.5	3.5	3.5	3.3	3.5
Industry	2.1	2.1	2.2	2.3	2.1
Seed	4.0	4.2	4.2	4.2	4.8
Feed <u>2/</u>	7.1	7.3	8.9	10.6	15.0
Total	16.7	17.1	18.8	20.4	25.4
<u>Exports</u>	2.4	7.5	1.5	0.2	1.0
Total disappearance	19.2	24.6	20.3	20.6	26.4
<u>Ending stocks, May 31</u>	12.2	4.1	3.1	6.4	8.7
<u>Million acres</u>					
<u>Area</u>					
Planted	2.9	2.5	2.6	2.6	2.8
Harvested	0.9	0.7	0.7	0.7	0.9
<u>Bushels per acre</u>					
Yield per harvested acre	25.8	24.4	26.7	29.1	30.5
<u>Dollars per bushel</u>					
<u>Prices</u>					
Received by farmers	2.06	2.63	2.99	2.37	2.11
Minneapolis No. 2	2.47	3.35	3.80	2.75	2.50
Loan rate	1.79	1.91	2.04	2.17	2.25

1/ Less than 50,000 bushels. 2/ Residual, approximates total feed use.

* Totals may not add due to rounding.

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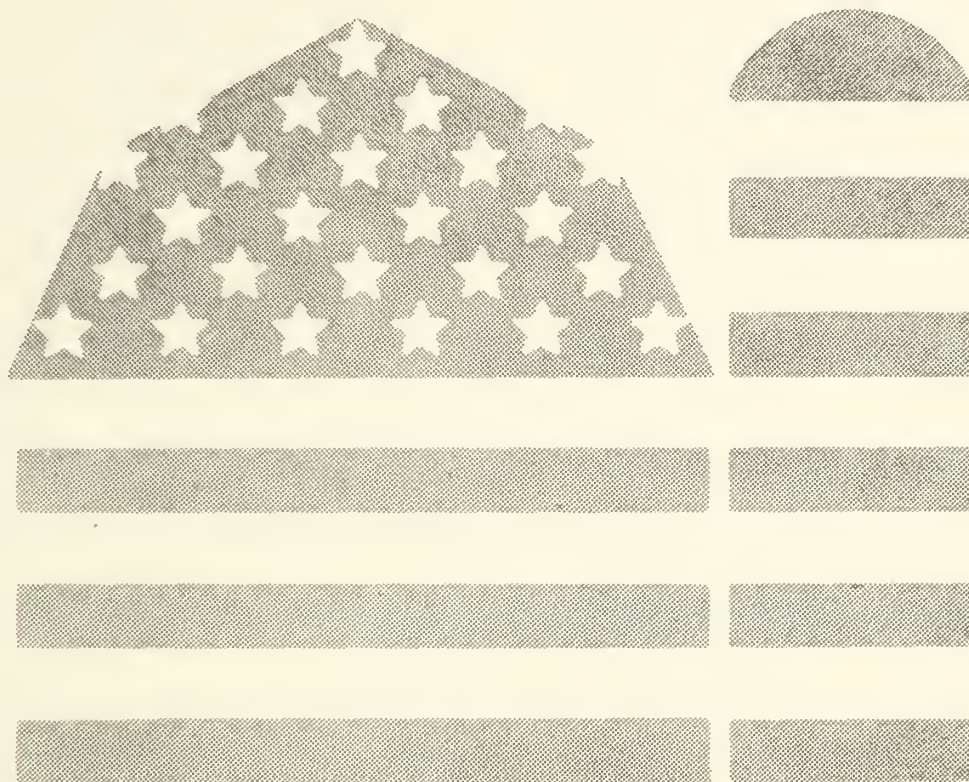
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